REMARKS / DISCUSSION OF ISSUES

In the non-final Office Action dated January 6, 2009, it is noted that claims 1-21 are pending and that claims 1-21 stand rejected under 35 U.S.C. §103. Claims 1 and 12 are amended, claims 2 and 13 are cancelled. The Applicant respectfully traverses the rejection based upon the arguments below. No new matter has been added.

CITED ART

The references cited and applied against the claims are listed as follows: U.S. Patent Application Publication 20030181165 (hereinafter referenced as "Sugar"); U.S. Patent 6,480,526 to Shoki (hereinafter referenced as "Shoki"); U.S. Patent Application Publication 20020193146 (hereinafter referenced as "Wallace"); U.S. Patent Application Publication 20030095533 (hereinafter referenced as "Joo"); IEEE Proc.-Commun., Vol. 147, No. 6, December 2000 (hereinafter referenced as "Thompson"); and Krishnamurthy et al. (0-7803-3002-1/95 1995 IEEE) (hereinafter referenced as "Krishnamurthy").

Rejection of Claims 1-6, 9, 11-14, 19, and 21 under 35 U.S.C. §103

On pages 3-11 of the non-final Office Action claims 1-6, 9, 11-14, 19 and 21 are rejected under 35 U.S.C. §103 over Sugar in view of Shoki.

The Office Action states that "Sugar *et al.* discloses … a transmitter (212 in figure 2) having first and second transmitting antennae (202, 204 in figure 2), the signal path of the first antennae exhibiting a different delay than the signal path of the second antenna (par 0038, lines 1-14). The Examiner concedes that Sugar does not disclose a "third antenna having a signal path exhibiting a different delay than a signal path of the fourth antenna." The Office Action further states that "Shoki *et al.* clearly shows that receive antennas 11 and 12 receive communication signal and the signal which received by antenna 11 is delayed by the delay line 24 then the both delayed and non-delayed signals are combined by the combiner 25." The Examiner contends that the teachings of Shoki overcome the deficiencies of Sugar.

Claim 1, as amended, recites in part: "wherein a nonzero delay of one of the signal paths of the first and second antennae is different from a nonzero delay of one of the signal paths of the third and fourth antennae." Contrary to the Examiner's assertion on page 5 of the Office Action, Sugar

lacks any teaching that the nonzero delay of one of the signal paths of the first and second antennae is different from a nonzero delay of one of the signal paths of the third and fourth antennae. Sugar only discloses a transmitter having a plurality of antenna, wherein the signal is sent from each antenna with a different delay spread between any two antennas. *See Sugar par 38, lines 1-14.* Sugar does not disclose any teaching about the signal path delay at the receiver (third and fourth antennae). Shoki discloses a receiver having a first antenna and a second antenna (FIG. 6), wherein the signal received at the first antenna exhibits a different signal path delay than the second antenna. *See Shoki, col. 7, lines 20-25, 36-47.* Shoki does not disclose "a transmitter having first and second transmitting antennae, the first antenna having a signal path exhibiting a different delay than a signal path of the second antenna" as recited in claim 1.

In contrast to the cited references applicant's claimed invention provides, in one non-limiting example that there is a diversity of transmit signal paths, with one path exhibiting a delay of zero and the other a delay of τ_1 and there is also a diversity of receive signal paths, as the RF signal path of the receiving antenna 38 of a mobile terminal exhibits a delay of τ_2 while the receiving antenna 36 exhibits a delay of zero. This delay diversity at both the transmitter and receiver produces four signal paths between a transmitter and receiver which can be defined as follows: $H_1 = 0 + 0 = 0$, $H_2 = \tau_1 + 0 = \tau_1$, $H_3 = 0 + \tau_2 = \tau_2$ and $H_4 = \tau_1 + \tau_2$. For example, if τ_1 is 100nsec and τ_2 is 200nsec, the four signal paths will have delays of zero, 100nsec, 200nsec, and 300nsec. In contrast, the combination of Sugar with Shoki does not teach a nonzero delay (τ_1) of one of the signal paths of the first and second antennae is different from a nonzero delay (τ_2) of one of the signal paths of the third and fourth antennae.

As stated in MPEP 2143, "[t]he rationale to support a conclusion that the claim would have been obvious is that all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination yielded nothing more than predictable results to one of ordinary skill in the art. KSR, 550 U.S. at ___, 82 USPQ2d at 1395; Sakraida v. AG Pro, Inc., 425 U.S. 273, 282, 189 USPQ 449, 453 (1976); Anderson's-Black Rock, Inc. v. Pavement Salvage Co., 396 U.S. 57, 62-63, 163 USPQ 673, 675 (1969); Great Atlantic & P. Tea Co. v. Supermarket Equipment Corp., 340 U.S. 147, 152, 87 USPQ 303, 306 (1950). "[I]t can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the

claimed new invention does." KSR, 550 U.S. at ___, 82 USPQ2d at 1396. If any of these findings cannot be made, then this rationale cannot be used to support a conclusion that the claim would have been obvious to one of ordinary skill in the art." As discussed above, the combination of Sugar with Shoki does not teach all the elements of claim 1 as amended. Withdrawal of the rejection of claim 1 under 35 U.S.C. §103 is respectfully requested.

Claim 12, as amended, includes substantially similar features as discussed above with respect to claim 1. Therefore, the remarks above, while presented in terms of claim 1, should be understood to pertain equally to claim 12.

Claims 3-6, 9, and 11 depend directly or indirectly from claim 1; claims 14, 19, and 21 depend directly or indirectly from claim 12. Claims 1 and 12 are patentable over the applied art for at least the reasons set forth above. While Applicants by no means concede the propriety of the rejection, claims 3-6, 9, 11, 14, 19 and 21 are patentable over the applied art for at least the same reasons as claims 1 and 12.

Withdrawal of the rejection of claims 3-6, 9, 11, 14, 19, and 21 under 35 U.S.C. §103 is respectfully requested.

Rejection of Claim 7 under 35 U.S.C. §103

On page 11-12 of the non-final Office Action claim 7 is rejected under 35 U.S.C. §103(a) over Sugar in view of Shoki and further in view of Wallace.

Claim 7 depends directly or indirectly from claim 1, which is patentable over the applied art for at least the reasons set forth above. While Applicants by no means concede the propriety of this rejection, claim 7 is patentable over the applied art for at least the same reasons as claim 1.

Rejection of Claims 8, 10, 16, 17, 18, and 20 under 35 U.S.C. §103

On page 13-18 of the non-final Office Action claims 8, 10, 16, 17, 18 and 20 are rejected under 35 U.S.C. §103(a) over Sugar et al. in view of Joo.

Claims 8 and 10 depend directly or indirectly from claim 1, which is patentable over the applied art for at least the reasons set forth above. Claims 16, 17, 18 and 20 depend directly or indirectly from claim 12, which is patentable over the applied art for at least the reasons set forth

above. This rejection is improper as the dependent claims include all the features of the independent claims and the rejection fails to mention the Shoki reference.

Rejection of Claim 15 under 35 U.S.C. §103

On page 18-19 of the non-final Office Action claim 15 is rejected under 35 U.S.C. §103(a) as being unpatentable over Sugar in view of Thompson and further in view of Krishnamurthy.

Claim 15 depends directly or indirectly from claim 12, which is patentable over the applied art for at least the reasons set forth above. This rejection is improper as the dependent claims include all the features of the independent claims and the rejection fails to mention the Shoki reference.

Conclusion

In view of the foregoing, Applicant respectfully requests that the Examiner withdraw the rejections of record, allow all the pending claims, and find the application in condition for allowance. If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Please charge any additional fees associated with this application to Deposit Account No. 14-1270.

Respectfully submitted,

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